

III. *Descriptions of some new species and a new genus of Rhyncophorous Coleoptera, from the Hawaiian Islands.* By D. SHARP.

[Read December 5th, 1877.]

THE insects described in this Paper are all due to the indefatigable efforts of the Rev. T. Blackburn, who is at present residing in Honolulu, and is, as far as he can find leisure, bent on ascertaining as thoroughly as possible the nature and extent of the insect fauna of the group of Sandwich Islands.

The Polynesian Islands have been hitherto considered to harbour but very few species of *Coleoptera*, and it remains to be seen to what extent Mr. Blackburn's investigations will confirm the reports of former observers. It may be said, however, already, that the poverty of these Islands in *Coleoptera* is not yet to be accepted. Fairmaire, in his Memoir on the *Coleoptera* of Polynesia, published in 1849, was only able to report 140 species of the family from the whole of the Polynesian Islands, and thought that this number would not be readily increased, for M. Vesco, so he informs us, required several years of research in Tahiti before he could discover 100 species, while Mr. Blackburn has been able, I believe, to amass between two and three hundred species during two seasons collecting in the Island of Oahu. Mr. Blackburn, in the letters I have received from him several times, alludes to the peculiar poverty of specimens of *Coleoptera*. Again and again he has visited a spot where he had formerly found an individual of some species he desired, without being able to discover a second example, so that of the greater part of the species he has discovered he finds it extremely difficult to accumulate anything approaching to a series of individuals. This fact is quite in accordance with the observations of such collectors as have visited these islands; it may, perhaps, be ultimately discovered that the insect inhabitants of this spot having been necessarily confined during a very long period to one small area, have become less fertile than is the case in localities where the obstacles to a considerable change of locality

are less insuperable; whether there will ultimately prove to be any truth in this supposed correlation between paucity of individuals of a species and small area of distribution, remains to be seen; at any rate it seems *à priori* certain that the probability of breeding between individuals with but small previous kinship must be lessened in a ratio with the diminished area of distribution.

The six species for which I have established the genus *Proterhinus* are of a very interesting nature, though they consist only of insects of small size: they appear to me, as will be seen from the remarks I have made below, to point out that the position of the anomalous *Aglycyderida*, should be at the head of the Rhyncophorous series of *Coleoptera*, supposing the arrangement of Dr. Leconte to be a valid one; and though my very limited knowledge of the *Rhyncophora* scarcely justifies me in expressing an opinion, it seems to me that the system of this esteemed American entomologist is very far in advance, and that in the right direction, of any that has been hitherto proposed for this most extensive assemblage of beetles.

Besides the *Proterhini*, I have described ten species belonging to the family *Cossonides*; and as regards these I wish to say that I have not felt called upon to discuss the species of the family previously described from this locality, and for this reason, that I think Mr. Blackburn will be able to discover numerous other species of the family, so that a monograph, or anything like it, had better be deferred for the present. All I need say is, that I think I am justified in considering all these ten species as previously undescribed.

The interesting but very complicated question of the affinities of the Coleopterous fauna of these islands is a point on which I had better defer comment till my knowledge of the species is more complete.

Proterhinus vestitus, n. sp. Fusco-rufus, setis depressis, aliisque erectis vestitus, antennis tibiisque rufis; prothoracæ antrorsum constricto, basin versus angustato, dorso inæquali, fortiter punctato, opaco; elytris rufescentibus, plus minusve distincte nigro-signatis, squamulis depressis plagiatis vestitis, fortiter sed parum conspicue punctatis, humeris acutis. Long. 2—3 mm.

Antennæ red, about as long as head and thorax, rather slender; 1st and 2nd joints thick, 3rd slender, a good deal longer than the 2nd, the 9th joint evidently a little

stouter than the 8th, so as to be intermediate in thickness between it and the 10th. Thorax about as long as broad, the front part constricted, the sides behind the constriction curved and much narrowed towards the base; the surface is coarsely punctured and sparingly clothed with yellow, short setæ; it shows some depressions, which are, however, rather ill-defined and variable, the most distinct and constant being one near the front, in the middle. Elytra rather short, reddish, with some irregular black marks, the most distinct of which form a patchy band across the middle; they are clothed with patches of pale setiform scales, and are rather coarsely but somewhat indistinctly punctured, the punctures being scarcely placed in rows: the base is emarginate, so that the shoulders are prominent and acute, and quite disengaged from the base of the thorax: the surface shows, besides the patches of scales, scattered erect setæ. The legs are reddish, with the thicker part of the femora nearly black. The under surface is rough on the front parts; the basal ventral segment is coarsely and distinctly punctured, the other four segments are nearly impunctate.

Found on a species of *Hybiscus*, and also on the candle-nut tree.

Proterhinus Blackburni, n. sp. Rufescens fere concolor, setis elongatis, erectis conspicue vestitus, fortiter rugoso-punctatus, opacus; elytrorum humeris prominulis; antennis articulo 2^o quam tertio crassiore et paulo longiore; femoribus minus clavatis. Long. $1\frac{3}{4}$ — $2\frac{1}{4}$ mm.

First and second joints of antennæ only moderately stout; 2nd, intermediate in thickness between the 1st and 3rd, and slightly longer than the latter. Thorax a good deal narrower than the elytra, very coarsely punctured, and bearing erect setæ, which render its outline and surface indistinct. Elytra rugose, with fine erect acute setæ. Legs of an uniform red colour.

This species is readily distinguished from *P. vestitus* by the different basal joints of the antennæ, as well as by the slighter characters of colour, sculpture and clothing. I have much pleasure in complimenting Mr. Blackburn, by giving this species his name.

Proterhinus simplex, n. sp. Minus robustus, rufescens, antrorsum obscuriore, antennis nigris basi rufo; prothorace lateribus curvatis, antrorsum laud vel vix constricto,

dense punctato, sparsim aureo-squamuloso; elytris thorace vix latoribus, fusco-rufoque subvariegatis, crebre profundeque punctatis, irregulariter aureo-squamulosis, breviterque setosis; humeris acutis sed minus prominulis. Long. 2 mm. Lat. $\frac{3}{4}$ mm.

I have seen only two immature individuals of this species, which were considered by Mr. Blackburn to be male and female, but they appear to me to be both females, the head being in both individuals without a beak. The species is at any rate distinct from any of the others here described, even if the sexual distinctions of the head prove to be the same as in the other species. The antennæ are elongate and black, but with the basal joints reddish; the 1st joint is rather stout, the 2nd moderately stout, and hardly so long as the 3rd; the 9th is distinctly larger than the 8th. The thorax is about as broad as the elytra, the sides much curved and a good deal narrowed towards the front, but without distinct constriction; the surface is densely and coarsely punctured, only indistinctly impressed towards the front, and with only very short depressed scales. The elytra are coarsely and distinctly punctured, clothed in an irregular manner with golden scales, and with very short erect white setæ. The legs are uniform red: the femora not very thick.

Proterhinus obscurus, n. sp. Minus robustus, fusco-rufus, antennis obscuris, indistincte punctatus, griseo-vestitus, brevissime setulosus; prothorace æquali lateribus valde curvatis, haud sinuatis; elytris thorace vix latoribus, humeris nullo modo prominulis. Long. 2 mm.

Antennæ moderately long, obscure or blackish-red in colour, 3rd joint distinctly longer than 2nd. Thorax very dull, very densely and indistinctly punctured, greatly rounded at the sides, clothed rather sparingly with very short depressed pale scales. Elytra rather slender and with the humeral angles quite indistinct; they are coarsely and deeply but not distinctly punctured, clothed with pale scales, and with very short white setæ: the legs are reddish, with the femora somewhat obscure. I have seen only one individual which is a male, and is distinguished from the *P. simplex* by its more sordid colour and clothing, and the less distinct humeral angles of the elytra.

Proterhinus oscillans, n. sp. Minus elongatus et

parallelus, rufus, antennarum clava obscuriore, irregulariter pallido-squamosus, breviter setulosus; prothorace medio dilatato, dense indistincteque punctato; elytris minus elongatis, thorace latioribus, fortiter punctatis, humeris nullo modo prominulis. Long. $1\frac{7}{8}$ mm.

The antennæ are moderately long, the 1st and 2nd joints moderately stout, the 3rd longer than the 2nd. The thorax has the surface nearly even, indistinctly punctured, and with very short depressed whitish-yellow scales; it is much narrowed both in front and behind. The elytra are not elongate; they are slightly rounded at the sides and narrowed towards the shoulders, which are not in the least acute or prominent; they are of a reddish colour, indefinitely marked with darker, and are coarsely though not distinctly punctured, and bear pale scales or depressed setæ, and short erect white setæ. The legs are concolorous red, and are rather thick and conspicuously setose.

The one individual I have seen is a male. The species differs from *Proterhinus obscurus* by some differences of colour, clothing and form; its less elongate elytra, and the less evenly-curved sides of the thorax, render it probable that it is a distinct species.

Proterhinus debilis, n. sp. Angustulus, nigro-rufescens, minus læte variegatus, antennis nigris, apice obsolete clavatis; corpore setis depressis et erectis irregulariter vestito. Long. $1\frac{3}{4}$ — $1\frac{7}{8}$ mm.

This is a small narrow species of dark colour, and distinguished from the allies here described by the structure of the antennæ, which are less elongate; they have the 1st and 2nd joints thick, the 2nd being quite like a bead, about as long as broad, the 3rd is rather more elongate than the 2nd, the 9th is scarcely different from the 8th, the 10th and the 11th are a little thicker; the thorax and elytra do not differ in any very conspicuous manner from the same parts in *P. obscurus*. I have seen one male and one female of this species.

Some of the species I have above attempted to describe I have not found very easy to distinguish from one another by characters easily conveyed by a description. *P. vestitus* is the largest species, with the most variegated colours, and is readily to be identified by the more uneven surface of the thorax, and by its peculiar abrupt con-

striction at the front part. *P. Blackburni* is readily distinguishable by the very long and conspicuous slender setæ, by its more coarsely-sculptured surface, which is nearly free from scales, and by its feebler tarsi. It is the species which departs least widely from *Aglycyderes*. *P. debilis* is quite distinct by the last three joints of the antennæ being less developed than in the other species. The remaining three species are not so easy to distinguish by strongly-marked characters; though I have seen only one or two individuals of each, I expect that *P. oscillans* will be distinguished by its shorter elytra, the humeral angles of which are not in the least acute or well marked. *P. obscurus* and *P. simplex* are much more similar, but the latter seems to have the apical joints of the antennæ more developed. As, however, I have only seen the female of the one and the male of the other of these two species, their more certain distinction must be left for future observation.

I now come to the more important question of the structural characters of these little insects; these prove to be very remarkable, and have necessitated the creation of a new collective name for the species. They are, briefly, as follows:—

Antennæ 11-jointed, not geniculate, the 1st and 2nd joints thicker than the following ones, the 10th and 11th elongate, and separate, slightly broader than the preceding ones. Head narrow, in the female slightly prolonged in front, in the male furnished with a shining beak, which is about as long as the head, and considerably narrower than it, without gular sutures; antennæ inserted at the sides, close to the eyes, in an ill-defined groove. Eyes small, but very prominent, coarsely faceted; parts of the mouth minute, and not visible externally, being concealed beneath by a horny plate, which fills up the little cavity at the apex of the beak. Anterior coxæ minute, globose, entirely embedded in the thorax at a distance from the hind margin, and widely separated from one another; prothorax without visible sutures, except that there are traces of a transverse one between the front coxæ. Middle coxæ minute, globose and deeply embedded, widely separated; sutures between the pieces of the mesothorax and metathorax not visible. Metasternum very short; hind coxæ small, oval, deeply embedded, very widely separated. Hind body with five ventral segments, the 1st elongate, 2nd, 3rd and 4th subequal, rather short, separated by deep

sutures, 5th about twice as long as the 4th. Elytra soldered together, without epipleuræ, and without fold on their inner face. Dorsal segments of hind body, except the last one, formed of excessively fine membrane, so that their number is difficult to distinguish; the apical one placed under elytra, obliquely perpendicular in position, without groove or mark at the base. Legs robust, moderately long; tibiæ without apical spurs; tarsi 3-jointed, the basal joint very short, the 2nd joint very large, consisting of two broad lobes which are very pubescent beneath; the 3rd joint stout, moderately long, terminated by two separate, rather stout, simple claws.

These characters show a relationship with *Aglycyderes* of Westwood and Wollaston, one of the most anomalous of the *Coleoptera*. The chief points in which the insects I am at present considering depart from *Aglycyderes* are, the narrow head, which in one sex is produced in front so as to form a distinct beak, and the large development of the lobes of the second tarsal joint. The tarsi in *Aglycyderes* are said to be 4-jointed, but the joint intervening between the 2nd and 4th is so minute, that it should not be counted unless the *Tetramera* are considered to have 5-jointed tarsi.

I recently described a species of *Aglycyderes* from New Zealand (Ann. & Mag. Nat. Hist., July, 1876, p. 28), and made some remarks on its position amongst the *Coleoptera*, suggesting that it might be placed as an aberrant member of the family *Colydiidæ*; since then, however, I have made some fresh investigations in connection with the peculiarities of the insects I am here treating of, and have felt compelled to change my opinion and adopt pretty nearly that of Mr. Wollaston, viz., that a separate family must be formed for *Aglycyderes*, and I have no doubt that *Proterhinus* may be correctly placed with it. The position of the family, however, is a point of still greater difficulty. Mr. Wollaston suggested an approximation to *Anthribidæ*, but *Proterhinus* tends rather to diminish than increase this affinity.

If Dr. Leconte's definition of the *Rhyncphora* as a series, distinguished from all other *Coleoptera* by the coalescence of "the posterior lateral portions of the head and prothorax on the median line of the under surface of the body so as to unite by a single suture" be accepted, there can, I think, be little doubt that the *Aglycyderidæ* must enter that series. But in that case it must be con-

sidered an entirely isolated group, and should be placed at the commencement of the *Rhyncophora*, being widely distinguished from Leconte's series *Haplogastra* by the minute, embedded and globose front coxæ, by the more rudimentary trophi, and by the subtetramerous tarsi. Though the two species of *Aglycyderes* would not, from their facies at first sight, suggest a proximity with *Rhinomaceridæ* as a natural position for the family, this difficulty is removed by an inspection of the male of *Proterhinus*, which has, perhaps, more the appearance of a *Rhinomacer* than of any other insect.

Dryophthorus squalidus, n. sp. Piceus, vel fusconiger, opacus; prothorace subconico, antrorsum leviter constricto, æquali, dense fortiterque punctato; elytris sat elongatis, subparallelis, thorace paululum latioribus, sat profunde striatis vel sulcatis, striis fortiter punctatis, interstitiis æqualibus, planis, haud velutinis, 6° ad apicem sat carinato-elevato; metasterno elongato. Long. $3\frac{1}{2}$ — $4\frac{1}{4}$ mm. (exc. rostr.)

In the male the rostrum is punctured and opaque till just before the apex, where there is left a transverse smooth space; in the female the rostrum is longer, and all the portion of it in front of the insertion of the antennæ is smooth.

The species is a good deal larger than the European *Dryophthorus lymexylon*, and the thorax is broader, with a much less distinct constriction in front: the sculpture is very similar, except that the interstices are broader in *D. squalidus*.

Mr. Blackburn says this is the commonest species in Oahu, and occurs at a lower elevation than most of the others.

Dryophthorus gravidus, n. sp. Robustus, niger, vel piceus, opacus; prothorace antrorsum angustato, lateribus rotundatis, antrorsum leviter constricto, dense grosseque punctato, æquali; coleopteris latis, haud elongatis, prothorace evidenter latioribus, grosse seriato-punctatis, interstitiis ad basin nullo modo elevatis, ad apicem declivam evidenter (præsertim secundo) carinatis, 6° versus apicem carinato-elevato; metasterno haud elongato. Long. 5— $5\frac{1}{2}$ mm.

I have seen four specimens of this species; its very

robust build, and large size, and the rows of very coarse punctures on the elytra, the interstices of which, on the basal portion, are not in the least elevated, will readily distinguish it. The sexual differences are much the same as in *Dryophthorus squalidus*.

Dryophthorus crassus, n. sp. Robustus, piceus, opacus; prothorace antrorsum angustato, lateribus rotundatis, antrorsum sat constricto, fortiter punctato, æquali; coleopteris latis, haud elongatis, prothorace latioribus, minus profunde sulcatis, sulcis fortiter crenato-punctatis, interstitiis paululum elevatis, lutosi, latis, 6° versus apicem acute carinato-elevato; metasterno haud elongato. Long. $4\frac{1}{2}$ — $5\frac{1}{2}$ mm.

This species, on account of its large size and heavy form, resembles *Dryophthorus gravidus*, but the difference in the sculpture of the elytra renders the two species quite easy to distinguish. I have seen a single pair, the sexual distinctions being the same as in the preceding species.

Dryophthorus declivis, n. sp. Piceus, opacus; prothorace antrorsum fortiter constricto, lateribus minus rotundatis, dense fortiter punctato, inæquali; coleopteris haud latis, sed prothorace evidenter latioribus, versus apicem planato-declivis, fortiter seriato-punctatis, interstitiis 2°, 4°, 6°que elevatis, 6° versus apicem alte carinato; rostro ad apicem fortius bidentato. Long. $3\frac{7}{8}$ mm.

Rare; I have seen only two males; they have the rostrum very rugose except just at the tip. The form of the apical portion of the elytra reminds one somewhat of the *Tonicides*; both the fourth and sixth interstices coalesce, to form the acutely-raised apical margin.

Dryophthorus modestus, n. sp. Subgracilis, nigricans, opacus; prothorace subcylindrico, antrorsum evidenter constricto, dense fortiterque punctato, disco vix inæquali; elytris haud elongatis, prothorace paululum latioribus, evidenter sulcatis, sulcis sat fortiter crenato-punctatis, interstitiis latis, æqualibus, minus elevatis; margine apicali sat elevato, cum interstitio quarto conjuncto. Long. 3 mm.

This species is just about the size of *Dryophthorus lymexylon*; the thorax is broader in comparison with the elytra, and the interstices of the elytra are broader than

in the European species. I have seen only males of this species; according to Mr. Blackburn it is rare, and has been found by him in the stems of a species of fern in Oahu.

Note.—The sculpture of the species is very much that of *D. squalidus*; but independently of its much smaller size the present is readily distinguished therefrom by the fact that the apical side margin of the elytra is connected with the fourth interstice instead of the sixth.

Dryophthorus pusillus, n. sp. Subgracilis, nigro-ferrugineus, opacus; prothorace subcylindrico, antrorsum evidenter constricto, dense fortiterque punctato, disco vix inæquali; elytris haud elongatis, prothorace paululum latoribus, sat profunde sulcatis, sulcis minus conspicue crenato-punctatis, interstitiis vix latis, subæqualibus; margine apicali fortiter elevato, cum interstitio quarto conjuncto. Long. $2\frac{1}{2}$ mm.

This is the smallest *Dryophthorus* Mr. Blackburn has yet brought to light; he informs me it is found in the mountains of Oahu and is not common. I have seen only two males. It has the eyes more reduced than is the case with the other species here described; and may also be readily distinguished from *D. modestus* by the more acutely-elevated apical margin of the elytra.

Dryophthorus insignis, n. sp. Fuscus, opacus, grosse punctatus; rostro brevissime setuloso; prothorace antrorsum profunde constricto, post constrictionem subquadrato; fortiter ruguloso-punctato, breviterque (ad marginem anteriorem dense) setuloso; coleopteris brevibus, latis, prothorace evidenter latoribus, fortiter seriatim punctatis, interstitiis 2° , 4° , 6° valde carinato-elevatis et dense setulosis, 2° , 4° , que pone basin fere interruptis, cæteris omnino inconspicuis. Long. 3 mm.

This species is found in rotten wood at a considerable elevation; it is so readily distinguished from the others by its acutely-elevated alternate interstices of the elytra, and by the almost total disappearance of the other interstices, that it is not necessary here to allude more fully to its other characters. I have received eight specimens from Mr. Blackburn; in all of them the rostrum is rugose and opaque till very near the tip; in some of them the rostrum is a little more slender than in others; whether

these latter individuals are females, or whether I have only males before me, I am unable to state with certainty.

Pentarthrum prolixum, n. sp. Perelongatum, depressum, ferrugineum, nitidum; capite elongato anterius angustato, oculis a collo remotis; prothorace antrosum fortiter angustato, post marginem anteriorem leviter constricto, lateribus mox ante angulos posteriores rotundatis, sat fortiter et crebre punctato, dorso plano vel obsolete impresso; elytris elongatis, parallelis, vix striatis sed regulariter seriatim punctatis. Long. exc. rostr. 4—5 mm. lat. vix 1 mm.

Mas., rostro brevior et crassior, capite paulo longior, antennis paulo ante medium insertis; segmento ultimo ventrali latius impresso.

Fem., rostro tenuior capite duplo, longior, antennis longe ante medium insertis; segmento ultimo ventrali fere plano.

The very elongate and depressed form of this *Pentarthrum*, and the form of the head and rostrum, ally it to a group of species found in New Zealand, viz., *P. Wollastonianum* and *P. debile*; the rostrum has a slight constriction between the eyes and the insertion of the antennæ, and is a little dilated towards the apex; the series of punctures form very regular, somewhat depressed rows, but can hardly be correctly said to be placed in striæ: these striæ (if they may be so called) are not deeper at the apex than elsewhere.

I have seen one male and two females of this species; they were found in the stems of ferns. Mr. Blackburn informs me that the female is not rare, but that he has only found two individuals of the male, and that these were not accompanied by any females; he was thus led to suppose that what I have considered the sexes were distinct species, but I do not think such is the case.

Pentarthrum obscurum, n. sp. Angustulum, minus depressum, piceum vel ferrugineum, nitidum, fortiter punctatum; prothorace crebre fortiterque punctato, antrosum fortiter angustato, pone apicem leviter constricto, dorso haud depresso; elytris profundius striatis, striis fortiter punctatis, versus apicem haud deletis. Long. $2\frac{7}{8}$ mm.

The antennæ in this species are small, with the 2nd

joint of the funiculus not longer than the following ones; the eyes are contiguous with the neck; the punctures of the elytra are very distinct and regular, the interstices being narrow and without rugulosities; the 3rd joint of the tarsi is rather small and its lobes but little developed. I have seen three individuals which, I expect, are all of the male sex; they have the rostrum minutely punctate, almost simply cylindrical, moderately stout, rather more than half as long as the thorax, and the antennæ inserted just before the middle.

Pentarthrum Blackburni, n. sp. Angustulum haud depressum, subcylindricum, minus elongatum, rufopiceum, nitidum, fortiter punctatum; prothorace conico-cylindrico, pone marginem anteriorem levissime constricto, crebre fortiter, profundeque punctato; elytris fere brevibus, vix striatis, sed seriatim sat fortiter punctatis; interstitiis sparsim transverse rugulosis. Long. $2\frac{3}{4}$ mm.

This species is shorter than *P. obscurum*, and has the elytra differently sculptured; and the 3rd joint of the tarsi is still smaller, being only slightly different from the 2nd. The only individual I have seen I suspect to be a male; it has the rostrum much as in *P. obscurum*, but not quite so finely punctured.